

also results from MeOH-free dry Me<sub>2</sub>CO containing 1% by weight of HCl.  $\beta$ -Me mannopyranoside and Me<sub>2</sub>CO-HCl (1%) give mannose 2,3,5,6-diacetone; with Me<sub>2</sub>CO-CuSO<sub>4</sub> 6.5 g. of the sugar gives 4.4 g. of  $\beta$ -Me mannopyranoside 2,3,4,6-diacetone, b<sub>0</sub>.03 105°, n<sub>D15</sub> 1.4688, m. 76-7°, [ $\alpha$ ]<sub>578020</sub> -124° (MeOH, c 1), and 1.4 g. of the slightly impure 2,3-acetone derivative, b<sub>0</sub>.03 145° [ $\alpha$ ]<sub>578020</sub>, -80° (MeOH, c 1.4), -72° (H<sub>2</sub>O c 1.4). The diacetone derivative is completely hydrolyzed by MeOH-HCl in 200 hrs.  $\alpha$ -Me mannofuranoside, Me<sub>2</sub>CO and CuSO<sub>4</sub> give the 2,3,5,6-diacetone derivative, b<sub>0</sub>.04 125°, m. 24°, [ $\alpha$ ]<sub>D21</sub> 68° (MeOH, c 2.8); it is quantitatively hydrolyzed in 400 hrs. with 1 volume 0.04 N HCl in 3 vols. MeOH.  $\alpha$ -Me mannoside and Me<sub>2</sub>CO containing 5% MeOH and 1% HCl give a mixture of the diacetone derivs. of  $\alpha$ -Me pyranoside and  $\alpha$ -Me mannofuranoside. The sepn. of  $\alpha$ -and  $\beta$ -Me galactopyranosides may be conveniently effected by acetylation of the crude mixture obtained by the action of MeOH-HCl on galactose, the solid Ac derivative

being mainly the  $\alpha$ -form; this yields a monoacetone, b<sub>0</sub>.02 145-50° m. 101-2°, [ $\alpha$ ]<sub>D20</sub> 162° (H<sub>2</sub>O, c 0.5); it is hydrolyzed by 0.01 N HCl in less than 6 hrs.  $\beta$ -Me fructopyranoside with Me<sub>2</sub>CO containing 1% HCl gives  $\beta$ -fructose diacetone, while with CuSO<sub>4</sub> there results the  $\alpha$ -isomer, the glucosidic residue being lost in both cases. The  $\alpha$ -isomer also results from Et fructofuranoside by shaking with Me<sub>2</sub>CO-CuSO<sub>4</sub> for 6 months.

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|    |        |   |  |
|----|--------|---|--|
| L1 | 23     | S | RECRYSTALLIZATION  |
|    |        | E | RECRYSTALLIZATION+ALL/CT                                 |
| L2 | 955920 | S | (RECRYSTALLIZATION OR "CRYSTALLIZATION") OR "SEPARATION" |
| L3 | 6194   | S | ?GALACTOPYRANOSIDE                                       |
|    |        | E | ACETONE+ALL/CT   |
| L4 | 259283 | S | (ACETONE OR "CHEMICAL COMPOUNDS") OR "ORGANIC COMPOUNDS" |
| L5 | 9      | S | L2 AND L3 AND L4   |